

Remarks

Applicants thank the Examiner for carefully considering the subject application.

The Examiner has indicated the allowability of claim 12 which requires storing error information as a function of engine coolant temperature. As such, claim 12 has been rewritten in independent form. Likewise, claim 15 has also been amended in a similar way, and therefore claims 12-13 and 15-19 should be allowed. Claim 20 has also been amended to require that valve closing errors and opening errors be stored as a function of temperature, which is not shown in any cited reference. As such, claims 20-22 should also be allowed.

Regarding Claim 1, which has been amended to include the limitations of claims 3-5, Applicants respectfully submit that the combination urged by the Rejection is improper, as described in detail below.

The Rejection asserts that claim 5 is rendered obvious in view of Janse and Tang. Specifically, it states at page 4:

Janse discloses the claimed invention as recited above; however, fails to disclose the threshold varies as a function of engine operating conditions and as a function of engine speed.

However, Tang teaches the error threshold varies as a function of engine operating conditions (see column 12, lines 20 to 23). Tang further teaches the engine speed is known engine parameter (see column 3, lines 40 to 45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Janse's system by providing a varying threshold as a function of engine operating conditions (which also include engine speed) as taught by Tang in order adapt the system to various engine operating conditions.

However, Applicants respectfully submit that Tang appears to deal with fuel injection control, and more specifically, the Abstract of Tang states:

In engine fuel control applications in which a fuel command is issued to control at least a pair of fuel injectors, fuel command compensation is provided to stabilize fuel control from injection to injection while retaining fuel delivery accuracy. Fuel control performance over a control period is modelled, and the model stabilized through modern control techniques. Non-linear compensation is applied to reduce any residual fueling error, and both synchronous and asynchronous transient compensation are provided.

Applicants can find nothing in Tang that relates to electrically actuated valve control and error management, nor any hint that the error methods of Tang could be applied to electrically actuated valve control. The Rejection simply asserts a general conclusion that such would be obvious, without any basis in support thereof. As such, claims 1-2 and 6-11 should be allowed.

Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is courteously requested to contact the undersigned by fax or telephone at the number listed below.

Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account No. 06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505. A duplicate copy of this sheet is enclosed.

CERTIFICATE OF MAILING

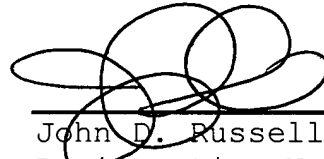
I hereby certify that the attached documents are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on October 11, 2004.



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Respectfully submitted,

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